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"September 26. A faint brush of light extends from the comet *towards* the sun.

"October 6. The comet is just visible to the naked eye. The brighter part is very eccentrically situated with reference to the general mass. A fan-shaped brush of light is very evident on the side *towards* the sun. There is no other appendage which can be called a tail.

"October 27. A faint ray of light is now seen directed from the sun.

"November 3. The comet shews a tail of one or two degrees, directed *from* the sun; with the same appearance on the opposite side as in October.

"November 5. The star of comparison is double, Dist. = 10″; that north preceding is used.

"November 21. The comparisons with *Mercury* have been corrected for refraction and for the planets' motion in the intervals of transit.

"November 25. At the first observation the altitude of the comet was 4°. The star was observed at nearly the same altitudes with the comet, so as to diminish the effect of errors in the refraction tables.

"The place given is probably accurate to within $0^{s}\cdot 5$ in right ascension, and 5″ or 10″ in declination."

PETERSEN'S SECOND COMET.

CAMBRIDGE, U. S. Equatoreal. (Professor W. C. Bond.)

1848.	h m s	R.A. h m s	Decl. ° ′ ″	No. of Obs.	Star.
Nov. 25	6 56 41	20 35 11·2	+37 24 15	2	*a*
27	6 58 34	20 43 45·8	34 52 24	6	*b*
28	6 55 53	20 47 58·3	33 34 54	3	*a*
29	6 55 16	20 52 10·5	32 16 4	1	*a*
30	8 20 36	20 56 35·6	30 51 18	3	*c*
Dec. 18	7 18 45	22 4 15·3	6 13 2	3	*d*
19	7 34 9	22 7 39·0	+ 4 54 25	4	*e*
1849.					
Jan. 22	6 42 22	23 42 13·2	−27 10 19	2	*f*

Corrected for Refraction and referred to the Mean Equinox, Jan. 1, 1848.

Mean Places of Stars of Comparison for 1848.

	R.A. h m s	Decl. ° ′ ″	
a	20 40 3·75	+33 24 13·8	ε Cygni
b	20 43 12·06	35 0 15·5	Lalande, 40277
c	20 59 22·45	30 57 32·7	B. Z. 306
d	22 4 19·51	6 8 58·3	Weisse, xxii, 78
e	22 6 25·42	+ 5 1 41·0	— —, 124
f	23 36 34·00	−27 5 15·9	Lalande, 46511

"The places on the 25th, 28th, and 29th of Nov. are from instrumental comparisons; the remainder are from micrometric differences, which were susceptible of great nicety, as the centre of the comet was indicated by a finely marked nucleus. On Nov. 30th, the nucleus passed within one second of arc of a star of the 12th mag., forming a close double star, but the contact was not complete. At the time of nearest approach the comet could be *seen to move.*"

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MARKREE. Large Equatoreal. (E. J. Cooper, Esq. and Mr. Graham.)

1848.	Greenwich M.T.	R.A.	Parall. Factor.	Decl.	Parall. Factor.	No. of Comp.
	h m s	h m s		° ′ ″		
Nov. 1	10 28 25·3	18 45 24·19	+[9·824]	+59 46 48·1	+[0·529]	10
2	8 58 8·0	49 45·53	9·777	59 10 46·0	0·251	8
3	7 54 38·4	18 54 12·53	9·691	58 32 54·1	9·927	10
7	7 43 48·1	19 12 47·86	9·635	55 41 5·0	0·016	10
14	7 54 33·1	19 45 17·39	9·585	49 40 58·0	0·280	10
20	8 43 53·1	20 12 41·88	9·599	43 27 34·5	0·513	5
22	7 7 33·7	20 21 17·60	9·498	41 15 21·6	0·396	5
29	7 47 31·5	* + 5·27	9·444	* −14 22·5	0·592	10
Dec. 8	7 14 17·7	21 27 29·44	9·321	20 9 44·9	0·707	10
14	6 55 30·4	21 49 36·53	9·254	11 51 5·7	0·771	5
19	6 52 24·9	22 6 55·93	9·245	5 12 28·4	0·813	10
22	6 40 13·2	16 50·01	9·209	+1 25 25·7	0·833	5
23	7 41 1·3	* − 22·83	9·369	* −2 55·7	0·840	5
27	6 30 14·7	22 32 34·31	+[9·189]	−4 28 18·2	+[0·860]	5

The Parall. Factor is the log. of the number which, when divided by Δ, gives the correction for parallax in seconds of time and of arc, for R.A. and Decl. respectively.

Stars of Comparison and Notes.

Nov. 1. Piazzi, 18^{h}: 220; 223.
2. B.A.C. 6463.
3. App. R.A. = 18^{h} 52^{m} 7^{s}·88, Decl. = +58° 33′ 9″·3, meridian circle.
7. App. R.A. = 19^{h} 11^{m} 17^{s}·23, Decl. = +55° 41′ 2″·9, ditto.
14. H.C. 37777.
20. — 38982, 6; 38990, 1; B.Z. 322: 20^{h} 9^{m} 25^{s}·14; 29^{s}·40.
High wind. The observation cannot be depended on.
22. H.C. 39393.
29. Rough place of star, R.A. = 20^{h} 51^{m} 29^{s}, Decl. = +32° 43′.
Dec. 8. B.Z. 196: 21^{h} 36^{m} 31^{s}·00; 27^{m} 33^{s}·07; 28^{m} 12^{s}·00.
Blowing pretty hard.
14. H.C. 42762. Weisse xxi: 1155.
19. Weisse xxii: 124.
22. — — 380; 391.
23. Rough place of star, R.A. = 22^{h} 20^{m} 35^{s}, Decl. = +0° 11′.
27. H.C. 44337, 8, 9.

DURHAM. Fraunhofer Equatoreal. (Prof. Chevallier and Rev. R. A. Thompson.)

1848.	Greenwich M.T.	R.A.		N.P.D.		Obs.
	h m s	h m s		° ′ ″		
Nov. 24	10 2 10·7	20 30 34·15	+·049 P.	51 16 21·0	−·60 P.	5
30	10 33 11·6	20 56 9·14	·044 P.	58 59 43·2	·72 P.	3
Dec. 11	9 29 13·7	*a* +1 21·97	·039 P.	*a* +5 22·3	·74 P.	6
16	8 38 54·5	*b* −2 8·60	·035 P.	....		1
	8 44 13·3	....		*b* −6 37·8	·77 P.	1
28	7 19 22·3	22 35 41·26	+·028 P.	95 37 31·8	−·85 P.	4

P is the horizontal parallax expressed in arc.

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Stars of Comparison.

			R.A. h m s	N.P.D. ° ′
Nov. 24	B.A.C. 7167	Dec. 11	21 37 43	74 5
30	H.C. 40654	16	21 59 5	81 4
Dec. 28	H.C. 44612			

"The places of the catalogued stars are taken from the authority cited. The first and last observations were made with the wire micrometer and red illumination; the others with the bar micrometer, without illumination.

"On Nov. 24, 11$^{\text{h}}$ 2$^{\text{m}}$ 30$^{\text{s}}$, Greenwich M.T., the nucleus was close upon a fixed star, the place of which by two comparisons with B.A.C. 7167 was found to be—

R.A. ...... 20$^{\text{h}}$ 30$^{\text{m}}$ 46$^{\text{s}}$·83 N.P.D. ...... 51$^{\text{h}}$ 19$^{\text{m}}$ 41$^{\text{s}}$·9

"The star was seen as before, but the comet appeared much fainter when near it."

Elliptic Elements of Petersen's Second Comet. By T. H. Safford.

Per. Passage, Jan.	19$^{\text{d}}$·35269 1849, Greenwich M. T.
Long. Per.	63° 14′ 31″
Node............	215 13 1
Inclin.	85 3 3
Log. Per. Dist.	9·9821429
Log. Eccentricity	9·9999210
Log. Mean Dist.......	3·7219822
Period	382801 years.

From observations, Oct. 25th, Dec. 18th, 1848; and Jan. 22d, 1849.

Professor Schumacher writes,—" I have received from Dr. D'Arrest, now assistant at the Leipzig Observatory, his third elements of Dr. Petersen's Second Comet, they are corrected after his observations made on Jan. 8, 9, 12, viz.:—

	Leipzig M.T. h m s	R.A. ° ′ ″	Dec. ° ′ ″
Jan. 8	4 57 59	346 39 44·6	−16 23 48·4
9	5 38 43	347 19 3·7	17 14 51·5
12	6 11 56	349 16 42·8	−19 45 44·5

" The elements of Dr. Petersen give the differences:—

	In R.A. ″	In Decl. ″
Jan. 8	−0·3	+52·6
9	−4·8	+39·2
12	+5·8	+56·1

" The second elements of Dr. D'Arrest,—

	″	″
Jan. 8	+17·1	+ 6·7
9	+10·6	−11·0
12	+22·0	− 4·6

" His third elements, which he considers as very accurate, are the following. There seems to him not the least indication of ellipticity yet given by the observations.